

## **Listing of all Explosives Reviewer Recommendations**

### Directives, Manuals and Operating Procedures (DMP)

- 1 WS Directive 2.435 Explosives Use and Safety
  - Add a paragraph to section four addressing the explosives possession prohibitions from the Safe Explosives Act. Federal Law prohibits the possession of explosives by certain individuals. WS should ensure that employees are aware of these prohibitions and take action to prohibit possession of explosives by prohibited individuals.
  - The web address listed in section four does not work and should be updated. (<http://www.aphis.usda.gov/mrpbs/forms/aphis/aphis256-5.pdf>)
  - Add a reference to Department of Transportation regulations at 49 CFR Parts 106, 107, 110, 171 through 180, and 397 in section five.
  - Eliminate and expand certain references to 27 CFR Part 555. Subpart D does not apply to any WS activity and can be deleted. All of Subpart G could be referenced, not just 555.126 and 127. All of Subparts I, J and K should be referenced.
- 2 WS Directive 2.625 Pyrotechnics, Rocket Net Charges, and Incidental Explosive Materials
  - Add a paragraph to section four addressing the explosives possession prohibitions from the Safe Explosives Act. Federal Law prohibits the possession of explosives by certain individuals. WS should ensure that employees are aware of these prohibitions and take action to prohibit possession of explosives by prohibited individuals.
  - The references in section five should be consistent with WS Directive 2.435 for 49 CFR and 27 CFR.
  - Delete the phrase “and approved as legal explosive devices by the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF)” from section I of Attachment 1. ATF does not engage in such approvals.
  - Delete the phrase “exceeds these standards and” from section IA, Rule 3b. An IME 22 container does not necessarily meet the bullet or theft resistant requirements of a Type 2 magazine, or the theft resistance of a Type 4 magazine.
  - Mention the OSHA requirement for indoor magazines being readily removable from the building in the event of an emergency in Section IA, Rule 3b.
  - Replace “small cardboard boxes” with "original packaging" in Section IA, Rule 4.
  - Add a rule for informing the local jurisdiction responsible for fire safety of explosives and pyrotechnics storage in magazines.
  - In Section V, delete “site” from the first sentence. Each magazine should be inspected, not just the site.
- 3 Develop an internal SOP for repackaging explosives for transportation.

- 4 APHIS SAFETY INSPECTION CHECKLIST (Hazardous Chemical Storage, Explosives Storage, and Waste Disposal), APHIS FORM 256-5 (June 97)
  - Insert “at least” before “once” in question #39.
- 5 Wildlife Services Explosives Training Workshop, What-to-bring List
  - Consider eliminating the reference to a “nonsparking” knife. It is not a well-defined term.
- 6 Standard Operating Procedures for Rocket and Cannon-net Use, August 8, 2006
  - The terms “should” and “will” are used apparently interchangeably in the document. WS should consider whether both terms should be used and if not which one should be used. If both terms are used, WS should be able to justify why one term is used in one place and the other is used in another place.
  - Edit section III, A.8 as follows: “Smoking, matches, open flame, and spark-producing devices are not permitted within 50 feet of outdoor explosives magazines or in the same room as indoor magazines. Combustible materials and flammable liquids will not be stored within 50 feet of outdoor magazines. The land surrounding an outdoor magazine will be kept clear of all combustible materials for a distance of at least 25 feet.”
  - Revise Section IV in accordance with the resolution of the IME recommendation on use of SLP-22 boxes.
  - Refer to IME SLP-20 in section VIII.1 for control of radio frequency hazards.
  - Add “NET OPERATOR-IN-CHARGE looks for a misfire, gives the all clear, or goes to XI.” as the first step in section X.
- 7 Explosives Handling Procedures for Beaver Damage Management, September 2007
  - Consider adding a definition for the “Chair of Explosive Committee.”
  - In section II, part D.1, delete the phrase “quantities of more than 1,000 detonators (regardless of package classification); quantities of more than 1,000 detonators (regardless of package classification).” Quantities of over 1,000 detonators may be shipped as Division 1.4. Likewise, delete the phrase “(less than 1,000)” in D.4.
  - Edit the last sentence in section II, part D.6, to read: “Detonators packaged as Division 1.4 explosives can be stored in Type 4 magazines.”
  - Consider replacing the definition of “shock tube” and “electric detonator” with that found in IME SLP-12.
  - Relabel the section titled “D. Miscellaneous” section “E”.
  - Replace the phrase “blasting site” with “blast site” throughout all WS literature.
  - Add a definition for “blast area: The area of a blast within the influence of flying material, gases, and concussion.” Use this term instead of “blasting area” throughout WS literature.
  - Examine font issues in the document since it looks like quotation marks are not displayed properly in either the electronic or hard copies provided.
  - Alphabetize the list of terms in section “[E]. Miscellaneous”.

- Consider replacing the definition of “shunt” with the newly revised IME definition from SLP-12:
    - SHUNT (noun) - A connection between two wires of an electric detonator which prevents building up of opposing electrical potential in them.
    - SHUNT (verb) - The means (or action) whereby build-up of extraneous electrical energy is prevented, diverted, current limited, or redirected in a detonator assembly to minimize the probability of an unplanned actuation of the ignition element.
  - Delete the phrase “size No. 8 or equivalent” from section IV.A.3. Strictly speaking, detonators are not tested to this standard making it essentially impossible to meet. As an alternative, WS could say “400-450 milligrams PETN base charge or equivalent.”
  - Add the phrase “when the combination of the magazine and the building provide bullet resistance” to the end of section XII Rule 4b.
  - Delete Rule 9 in section XII. WS needs to repackage explosives in smaller boxes and this may be best accomplished inside the magazine.
  - Edit the first sentence in section XII, Rule 13 as follows. “Smoking, matches, open flames, and spark or flame-producing devices are not permitted inside or within 50 feet of an outdoor magazine; or in the same room as an indoor magazine.
  - Add the word “outdoor” before “magazine” in Rule 14 in section XII.
  - Make Rule 15 in section XII consistent with the resolution of IME’s recommendation on magazine warning signs.
  - Consider adding rocket net charges to section XIII.
  - Revise rules 2-5 based on resolution of IME’s recommendation on use of Type 3 magazines for transportation.
- 8 Wildlife Services Explosives Program Definitions (undated?)
- Consider eliminating this document since it appears to be redundant with section II of Explosives Handling Procedures for Beaver Damage Management , September 2007. Duplicative standards are prone to developing inconsistencies.
- 9 Misfire Procedures Ez Det Detonator Nonelectric Shock Tube Assembly, June 2002
- Remove the trade name “Ez Det” and replace it with the generic term “dual ended”. “Ez Det” is a registered trademark of Dyno Nobel Inc. and in places where the term word is appropriate, WS could include the registered trademark symbol (®) following the word.
- 10 Checklist for the Use of Nonelectric Shock Tube Detonators, May 2003
- IME recommends no changes, except as discussed in the recommendation for covering starter caps.
- 11 Checklist for the Use of Ez Det Detonator Nonelectric Shock Tube Assembly, June 2002
- Remove the trade name “Ez Det” and replace it with the generic term “dual ended”. “Ez Det” is a registered trademark of Dyno Nobel Inc. and

in places where the term word is appropriate, WS could include the registered trademark symbol (®) following the word.

- 12 Checklist for the Use of Fuse Detonators
  - IME recommends no changes, except as discussed in the recommendation for covering starter caps.
- 13 Checklist for the Use of Electronic Detonators
  - IME recommends no changes, except as discussed in the recommendation for covering starter caps.
- 14 Subpart K-Storage
  - This is apparently intended to be a copy of ATF storage regulations. WS should provide a copy of the most recent version of ATF publication 5400.7, Federal Explosives Law and Regulations to trainees and consider eliminating this section of the Manual.
- 15 Untitled
  - A WS form for “Transportation Inventory” and “Daily Vehicle Inspection” is in the Manual, but has no title and should be given one. IME recommends no other changes, but notes that the form is applicable to beaver dam blasting only.
- 16 IME Bulk Truck Marking & Placarding Guide
  - IME recommends elimination of this from the Manual. It has no applicability since WS does not allow transport of explosives and oxidizers in the manner covered by the guide.
- 17 Procedures for Preparing Safety Fuse and Fuse Detonator Assemblies, No. 5A, Feb 9, 1998
  - Consider elimination of the document. Relevant parts should be already in or added to the Checklist for the Use of Fuse Detonators, May 2003.
- 18 Safe Practice with Nonelectric, Shock Tube Initiation System, No. 4, March 11, 1994
  - Eliminate this document. It does not accurately describe the phenomenon. WS should continue to emphasize the IME recommendation from SLP-4 to “NEVER pull wires, safety fuse, shock tube, coupling device, plastic tubing, or detonating cord out of any detonator or delay device.”
- 19 IME and ISEE’s Guidance on Passing through Airport Security Checkpoints for Commercial Explosive Professionals, July 2003
  - WS should replace this with the February 2005 edition.
- 20 Voluntary Security Checklist
  - WS should replace this with ATF Publication 5400.15, Safety and Security Information for Federal Explosives Licensees and Permittees, March, 2007.
- 21 WS should develop an internal SOP for repackaging explosives for transportation.
- 22 Revisit the validity of various letters and approvals from Alcohol Tobacco and Firearms (ATF) and Department of Transportation (DOT).

### Management and Administration (MA)

- 1 Implement ways to limit employees working alone with explosives and water hazards related to beaver impoundments.
- 2 Involve the WS Explosives Committee in the review of all accidents involving explosives or pyrotechnics.

### Training Program (TP)

- 1 Modify training or checklists to include the following elements.
  - Control starter cap shrapnel with shock tube systems.
  - Include and discuss Figure 9 from IME SLP-4 (Methods to attaching detonators to detonating cords.)
  - Discuss the importance of determining the resistance of blast circuits.
  - Encourage replacing blasting wire when it becomes damaged
  - Discuss proper wire connection techniques
- 2 Carry-over the certification process for blasters to the rocket net program.
- 3 Document all safety training including tailgate sessions and instructions to cooperators.

### Additional Safety Staff (SS)

- 1 Ensure that at least ½ FTE be devoted to the national coordination of the WS explosives and pyrotechnics safety and security program.

### Equipment, Facilities and Maintenance (EFM)

- 1 Allow the use of a Type 3 magazine for transportation rocket net charges and explosives other than detonators.
- 2 Consolidate explosives storage sites and make efficient use of indoor magazines.
- 3 Purchase multi-function gas detectors for blasters that enter confined spaces such as culverts and train such blasters in confined space entry procedures.
- 4 Ensure that Type 2 magazines are secured to a fixed object or otherwise protected from unauthorized removal.
- 5 Ensure that magazine sites are posted with proper warning signs.
- 6 Consider purchasing manufactured fuse cap assemblies.
- 7 WS should review the general housekeeping of magazines.
- 8 Provide employees with proper personal protective equipment. (e.g., safety glasses for all pyrotechnic and explosive uses and steel-toe shoes when handling SLP-22 or Type 3 boxes and rocket nets.)

### Culture (C)

- 1 Implement ways to limit WS employees working alone with explosives and water hazards related to beaver impoundments.
- 2 Improve cooperator assistance with safety.